What is claimed is:

1. An opaque white film with a thickness of from 10 to 500 µm whose principal constituent is a crystallizable thermoplastic, wherein the film comprises at least barium sulfate and at least one optical brightener, wherein the barium sulfate or the optical brightener or the barium sulfate and the optical brightener have been incorporated directly into the crystallizable thermoplastic or are fed as a masterbatch during film production, and wherein at least one surface of the film bears a functional coating with a thickness of from 5 to 100 nm.

2. The film as claimed in claim 1, wherein the crystallizable thermoplastic has been selected from the group consisting of polyethylene terephthalate, polybutylene terephthalate and polyethylene naphthalate.

3. The film as claimed in claim 1, wherein from 0.2 to 40% by weight of barium sulfate is present as pigment in the film, based on the weight of the crystallizable thermoplastic, and wherein the barium sulfate is fed by way of masterbatch technology during film production.

4. The film as claimed in claim 1, wherein, based on the weight of the crystallizable thermoplastic, from 10 to 50,000 ppm, of optical brightener is present in the film, and wherein the optical brightener is fed by way of masterbatch technology during film production.

5. The film as claimed in claim 4, wherein the optical brightener has been selected from the group consisting of bisbenzoxazoles, phenylcoumarins and bisstearylbiphenyls.

6. The film as claimed in claim 1, wherein, in addition to the optical brightener, a polyester-soluble blue dye selected from the group consisting of cobalt blue, ultramarine blue, anthraquinone dyes or combinations of these, is also present in the film, and wherein the amount of blue dye present in the film is from 10 to 10,000 ppm, based on the weight of the crystallizable thermoplastic.

7. The film as claimed in claim 1, wherein the barium sulfate is present as precipitated barium sulfate in the film in an amount of from 0.5 to 30% by weight, based on the weight of the crystallizable thermoplastic, and wherein the average grain size of the barium sulfate is from 0.1 to 5 µm, (Sedigraph method).

8. The film as claimed in claim 1, wherein the surface gloss of the film, measured to DIN 67530 (measurement angle 20°) is ≥ 10, wherein the luminous transmittance (transparency) of the film, measured to ASTM-D 1003 is ≤ 30%, and wherein the coloration of the film is uniform and streak-free over its entire running length and entire width.

9. The film as claimed in claim 1, wherein the film has one or more layers, and the form having more than one layer comprises at least one base layer and at least one outer layer.

10. The film as claimed in claim 1, wherein at least one of the surfaces of the film bears a functional coating with a thickness of from 20 to 70 nm, and the coating has been applied as solution, suspension or dispersion, and wherein the coating comprises substances or compositions selected from the group consisting of acrylates, ethylvinyl alcohols, PVDC, waterglass (Na_2SiO_4), hydrophilic polyesters, vinyl acetates, polyvinyl acetates, polyurethanes, silanes, the alkali metal or alkaline earth metal salts of C_{10}-C_{18} fatty acids, butadiene copolymers with acrylonitrile or

methyl methacrylate, methacrylic acid, acrylic acid or esters thereof and mixtures of these.

11. The film as claimed in claim 10, wherein the coating comprises from 0.05 to 5% by weight, of additional additives.

12. A process for producing the film as claimed in claim 1, in which the crystallizable thermoplastic barium sulfate and optical brightener is melted in an extruder and compacted, and then the molten thermoplastic material is extruded through a slot die and quenched on a chill roll, as a substantially amorphous prefilm, and then reheated and stretched longitudinally and transversely, or transversely and longitudinally, or longitudinally, transversely and again longitudinally and/or transversely, which comprises establishing the stretching temperatures at from T_g + 10 K to T_g + 60 K and establishing a longitudinal stretching ratio of from 2 to 5, and a transverse stretching ratio of from 2 to 5, and then heat-set the film.

13. The process as claimed in claim 12, wherein the first longitudinal stretching is carried out simultaneously with the transverse stretching (simultaneous stretching).

14. The process as claimed in claim 12, wherein, the heat-setting of the film is carried out at oven temperatures of from 200 to 260°C .

15. The process as claimed in claim 12, wherein during film production reclaimed film material is used in an amount of up to 50% by weight, based on the total weight of the film.